



A Comparison of Hawai'i and National Home-Based Family Businesses

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Family businesses are an integral sector of the American economy. They constitute approximately 90% of all U.S. firms and are estimated to account for half of the country's gross national product (Bowman-Upton 1991). They are also spread over a large number of households: by 1998, Heck and Stafford (1999) estimated that 13.8% of all American families had at least one family business operating from the home. In addition, family businesses vary greatly in size and revenue, from traditional single-household small businesses to approximately a third of the Fortune 500 firms (Riordan and Riordan 1993).

The growth of family businesses has been matched by an increase in home-based employment over the past two decades. According to data from the 2000 U.S. Census, 2.3% of American workers worked from home in 1980; the figure rose to 3.0% in 1990 and to 3.3% in 2000. In addition to the overall growth of home-based employment, home-based workers are engaging in an increasing range of industries, with technology-based white-collar jobs gaining greater prominence (Heck and Stafford 1999). In terms of family businesses, the 1997 National Family Business Survey (NFBS) showed 57.7% to be home-based.

Despite the increase in the number of family and home-based businesses, there is limited research on home-based family businesses, especially in Hawai'i. To increase understanding of this subset of small businesses, this study was designed to (1) examine the state of home-based family businesses in Hawai'i, and (2) compare home-based family businesses in Hawai'i with those in the entire United States. Attention will be focused on construction

and services industries because they are major contributors to tax revenues in the state (Bureau of Economic Analysis 2002, 2007), and also on agriculture because of growing public concern about food safety and healthy diets (Hawaii Farm Bureau Federation 2004, p. 9).

Methods

Procedure

The data used in this study were taken from the 1997 National Family Business Survey and the 2002 Hawai'i Family Business Survey (HFBS). (Note: the 5-year difference between these collections of data should be considered when comparing them.) Both surveys were funded by the U.S. Department of Agriculture through the University of Hawai'i's College of Tropical Agriculture and Human Resources, with the Hawai'i survey receiving additional funds from Bank of Hawaii through the University of Hawai'i's Family Business Center of Hawai'i. Both projects were designed to examine the interaction between the family and business systems in family businesses.

The sampling group for the 1997 NFBS was drawn from listed telephone numbers for individuals in all 50 states with families that shared a common dwelling unit and had at least one person living in the household who owned or managed a business. The following owner-manager characteristics determined the eligibility status of family businesses:

- worked in the business for at least a year
- worked a minimum of either 6 hours per week year-

- round or 312 total hours per year
- was involved in the daily management of the business
- lived in the residence with another family member.

Separate interview schedules were administered for households with separate household and business managers. A third schedule was used in cases in which one individual in the household held both managerial positions.

The sample for the Hawai'i survey was taken from a list of Hawai'i businesses having identical home and business telephone numbers. To be eligible for selection, the household had to meet the project definition of a family-owned business, there had to be a separate household manager and a business manager living in the household, and the business had to be home-based. To identify eligible households, respondents from the matched residential-business telephone list were interviewed by telephone. The screening process occurred between February and May of 2002. Once eligible cases were identified, separate interviews of the business and household managers were conducted from September to December 2002.

Participants

A total of 1,116 family business households were determined eligible in the 1997 NFBS. Of these cases, 673 households completed both a household and a business interview. Of this number, 414 were households with separate business and household managers. Out of those 414 households, 239 were home-based and thus eligible for this study. For all of the variables, complete data were available for at least 210 households.

The 2002 HFBS resulted in 707 eligible home-based family-business households who were part of an original list of 743 businesses with identical home and business telephone numbers. Of these 707 households, 142 gave complete data for most variables of interest and were thus eligible for this study. For all of the variables, complete data were available for at least 102 households.

Analysis and variables

To compare family businesses in Hawai'i with the entire nation, several tests were run on 16 selected business-manager, business, and household characteristics.

The seven business manager characteristics variables were demographic in nature. They included age, gender, education, age of first involvement with the business, year

of first involvement with the business, years involved with the business, and hours worked per week.

The business characteristics variables related to the type of business, the number of workers in the business, and the performance of the business. They included the industry type, number of total employees other than the business manager, legal ownership of the business, 1996 business profit, and 1996 gross business income.

The household characteristics variables included the area of residence, whether the home was owned or rented, 2001 gross household income, and 2001 gross household debt.

Findings

National home-based family businesses

To analyze characteristics of the national and Hawai'i home-based family businesses, means and percentages were calculated for each group (see Table 1). On average, the business manager of a national HBFB was a 47.5-year-old married (97.1%) male (98.7%) who had been involved in the business for just under 16 years. He had at least some college education (57.2%) and worked at least 40 hours a week (72.1%).

For the national sample, the largest industry sector was agriculture and mining (33.9%) and the second largest sector was finance, insurance, and real estate (26.8%). A business was typically owned as a sole proprietorship (64.0%) and had over two paid employees, excluding the business manager. The gross business profit figures of the national businesses had a fairly normal distribution, with the midpoint of the profit curve around \$15,000. Most businesses earned at least \$21,000 in total income (73.9%).

The typical national household with an HBFB resided in a rural area (60.3%) and owned the home (88.3%). Gross household income had an uneven distribution in which the two largest groups of households earned between \$25,000 and \$50,000 (34.1%) and over \$75,000 (30.2%). Over 21% of the households had no debt, while 56.2% had up to \$100,000 in debt. The remaining 21.9% had between \$100,000 and \$700,000 of debt.

Hawai'i home-based family businesses

The typical Hawai'i business manager of a HBFB was a 52.8 year-old married (87.7%) male (79.6%) who had been involved in the business for just under 13 years. He also had at least some college education (85.3%) and

worked at least 40 hours a week (71.1%).

The largest industry sector for Hawai'i HBFBs was finance, insurance, and real estate (35.2%). A Hawai'i HBFB also was typically owned as a sole proprietorship (64.8%) and had over two paid employees, excluding the business manager. Over 64% of the businesses made a profit of at least \$15,000, with the majority earning at least \$77,000 in total income (56.5%).

Most Hawai'i households with an HBFB were located in a rural area (68.3%) and owned the home (84.4%). Approximately half of the households earned up to \$75,000 total household income, and the remaining half earned over \$75,000. While 18.6% of the households had no debt, the majority (53.9%) had debt exceeding \$75,000.

In the Hawai'i data set, the only variable for which there was a significant difference among the five islands from which data was collected (O'ahu, Maui, Hawai'i, Kaua'i, and Moloka'i) was the industry type. While the largest sector for each island except Moloka'i was the service industry, the size of the sector varied across the islands: on O'ahu, 44% of all HBFBs were in the service industry; on Maui, 36%; on the island of Hawai'i, 22%; on Kaua'i, 42%; on Moloka'i, 0%. The rest of the variables showed no significant difference by island. The only variable with a significant difference between O'ahu and the four other islands was gross business income; the distribution for the other islands' gross business income was more spread out than the distribution of the O'ahu gross business income. Eight percent of O'ahu businesses earned less than \$21,000 in gross business income, compared to 20% for the other islands, while 41% of O'ahu businesses earned between \$21,000 and \$77,000, compared to only 21% for the other islands.

Comparison of national and Hawai'i HBFBs

A comparison of HBFBs in Hawai'i and in the entire United States reveals more differences than similarities. Significant differences by group were found in all of the business manager characteristics variables except for the number of hours worked per week. Managers of national businesses were younger, more likely to be male and married, and less educated than business managers in Hawai'i. Additionally, despite their younger age, national business managers were likely to have been involved in their business for 3 years longer than Hawai'i business managers.

The businesses themselves had key differences as well. Of the five business characteristics, industry type, own-

ership type, and gross business profit were significantly different between the Hawai'i and national businesses. There was great variation among the types of businesses; the largest sector of national HBFBs was agriculture and mining, whereas the largest sector of Hawai'i HBFBs was service. While approximately 64% of both the Hawai'i and the national businesses were likely to be sole proprietorships, the remaining percentages were allocated quite differently among other types of ownerships. Also, Hawai'i businesses tended to have a greater profit return than national businesses, although both groups earned approximately the same amount of total income.

Of the four household characteristics, gross household debt and income were significantly different between the two data sets. Interestingly, the households of Hawai'i businesses had both greater household income and household debt than their national counterparts. Tests that examine whether there are significant differences between the two groups reveal that for the national HBFBs, business profit was related to both household debt and household income, and that household income is related to household debt, which may explain the lower values of these variables on the national side.

Conclusions

The value of this study goes beyond the finding that Hawai'i home-based family businesses differ significantly from national home-based family businesses. Individuals interested in starting a home-based family business as well as loan officers who grant small-business loans can benefit from knowing which business-manager and business characteristics are associated with higher business profits. In this study, the more profitable businesses in Hawai'i were managed by more highly educated people (in Hawai'i, 45.2% had a bachelor's degree or higher, vs. 29.2% in the national survey). Hawai'i had older business operators (52.81 years vs. 47.55 years), and they worked in service-sector or construction jobs (35.6%) vs. agriculture or mining jobs (33.9% in the national survey). These findings are consistent with a previous study by Masuo and Li (2001). The one difference between the studies is that the latter study was broader in scope: findings were based on a national dataset of both home-based and non-home-based family business households.

The relationship between education and income has been well documented in studies of returns to human capital (Kalleberg and Leicht 1991; Rowe et al. 1993). Increased age of the business manager is probably related

Table 1. Comparison of variable means and percentages between national and Hawai'i home-based family businesses (HBFBs).

<i>Variable</i>		<i>National HBFBs</i>	<i>Hawai'i HBFBs</i>
<i>Business manager profile</i>			
Age (mean years)		47.55	52.81
Gender	Male	98.7%	79.6%
	Female	1.3%	20.4%
Marital status	Married	97.1%	87.7%
	Not married	2.9%	12.3%
Education	High school or less	42.7%	14.6%
	Some college	28.0%	40.1%
	Bachelor's degree	23.8%	25.5%
	Professional or graduate degree	5.4%	19.7%
Years involved (mean)		15.89	12.9
Hours worked per week	19 hours or less	9.9%	11.3%
	20–39 hours	18.0%	17.6%
	40–59 hours	39.5%	35.2%
	60 hours or more	32.6%	35.9%
<i>Business characteristics</i>			
Industry type	Agriculture or mining	33.9%	8.5%
	Manufacturing	2.5%	5.1%
	Transportation	0.8%	1.7%
	Construction	16.7%	12.7%
	Wholesale trade	2.5%	7.6%
	Retail trade	7.1%	8.5%
	Service	26.8%	35.6%
	Finance, insurance, or real estate	8.8%	4.2%
	Other	0.0%	16.9%
Number of employees		2.41	2.26
Legal ownership of business	Sole proprietorship	64.0%	64.8%
	Legal partnership	13.0%	2.1%
	C or LLC corporation	8.9%	16.2%
	S corporation	10.9%	14.1%
	Other	3.3%	2.8%

<i>Variable</i>		<i>National HBFBS</i>	<i>Hawai'i HBFBS</i>
Business profit ¹	Negative or loss	0%	5.9%
	\$0–\$2,499	21.4%	15.3%
	\$2,500–\$14,999	30.5%	14.4%
	\$15,000–\$47,999	30.0%	33.1%
	\$48,000–\$300,000	18.1%	31.4%
Gross business income ²	\$0–\$5,999	10.7%	5.6%
	\$6,000–\$20,999	15.3%	10.5%
	\$21,000–\$76,999	28.8%	27.4%
	\$77,000–\$299,999	33.0%	40.3%
	\$300,000–\$8,000,000	12.1%	16.2%
<i>Household characteristics</i>			
Residential area	Urban	39.7%	31.7%
	Rural	60.3%	68.3%
Home status	Home owned	88.3%	84.4%
	Home rented	11.7%	15.6%
Gross household income ³	\$0–\$24,999	15.5%	8.0%
	\$25,000–\$49,999	34.1%	21.2%
	\$50,000–\$74,999	20.3%	23.0%
	\$75,000 or more	30.2%	47.8%
Gross household debt ⁴	No debt	21.9%	18.6%
	\$1–\$24,999	20.5%	15.7%
	\$25,000–\$49,999	12.9%	7.9%
	\$50,000–\$74,999	22.8%	3.9%
	\$100,000–\$1,000,000	21.9%	54.9%

¹ missing 53 cases (29 1997 NFBS, 24 2002 HFBS), 2 cells have expected count less than 5

² missing 42 cases (24 1997 NFBS, 18 2002 HFBS)

³ missing 36 cases (7 1997 NFBS, 29 2002 HFBS)

⁴ missing 60 cases (20 1997 NFBS, 40 2002 HFBS)

more to years of education than business experience, because on average the Hawai'i business managers had almost three fewer years (12.9 years) in the business than their U.S. counterparts (15.89 years).

Of interest is the finding that profitability in Hawai'i is related to work in the service and construction industries rather than in agriculture or mining, which was the industry with the highest participation rate for the U.S. In Hawai'i, the local agriculture industry is in trouble. Hawai'i's farms tend to be small (in 2002, 63.7% were under 10 acres) and they yield low profits (net cash farm income was \$42,210 per farm) (USDA-ERS 2002, p. 190).

Agriculture in Hawai'i is at a crossroad. The small-scale farmer in Hawai'i, failing to compete in the marketplace with cheap produce being imported into the state, may disappear (Santoro 2008). In spite of this competition and the pressure of rising fuel costs, farmers in Hawai'i have an opportunity to capitalize on a growing niche market of consumers who are choosing to buy local over imported produce because of their preference for food that they believe is of high quality and safe.

We hope that the information in this study will guide private-sector purchasing strategies (e.g., Wal-Mart's "Salute to America's Farmer" campaign) (Wal-Mart Stores 2006) as well as trade and tax policies that increase the viability not only of service and construction small-business activities but also of small-scale farm operations in Hawai'i. As small businesses become better able to compete in today's global economy, they can become an even more vital part of the national economy.

References

- Bowman-Upton, N. 1991. Challenges in managing a family business. U.S. Small Business Administration.
- Bureau of Economic Analysis. Interactive table. Gross domestic product by state, 2002 and 2007. Retrieved on 8/11/08 from www.bea.gov/regional/gsp/action.cfm.
- Hawaii Farm Bureau Federation. 2004. A strategic plan for Hawaii's agriculture. May 18, 2004. Retrieved on 8/11/08 from www.hfbf.org/PDF/Strategic%20Plan%2005.16.04.pdf.
- Heck, R.K.Z., and K. Stafford. 1999. Reconceptualizing business performance theory within the family business context: Helping high growth firms remain competitive in global markets. Paper presented at the 1999 Babson College-Kauffman Foundation Entrepreneurship Research Conference, The Darla Moore

School of Business at the University of South Carolina, Charleston, SC, May 13–15.

- Kalleberg, A.L., and K.T. Leicht. 1991. Gender and organizational performance: Determinants of small business survival and success. *Academy of Management Journal*, 34(1): 136–161.
- Masuo, D.M., and G.J. Li. 2001. Some factors in the profitability of small family businesses. University of Hawai'i at Mānoa, College of Tropical Agriculture and Human Resources, Entrepreneur's Toolbox no. ET-3. Retrieved on 7/28/08 from www.ctahr.hawaii.edu/oc/freepubs/pdf/ET-3.pdf.
- Riordan, D.A., and M.P. Riordan. 1993. Field theory: An alternative to systems theory in understanding the small family business. *Journal of Small Business Management*, 31(2): 66–78.
- Rowe, B.R., G.W. Haynes, and M. Bentley. 1993. Economic outcomes in family-owned home-based businesses. *Family Business Review*, VI, p. 383–396.
- Santoro, A. Growing pains. July 27, 2008. *The Honolulu Advertiser*, p. B1–2.
- United States Department of Agriculture, Economic Research Service. 2002. Census of agriculture—County data. Table 4. Net cash farm income of the operations and operators: 2002. Retrieved on 7/28/08 from www.ers.usda.gov/StateFacts/HIhtml#FC.
- Wal-Mart Stores. Nov. 6, 2006. Michigan's Riveridge Produce teams with Wal-Mart to celebrate America's farmers; National program salutes locally grown agriculture. Retrieved on 8/11/08 from <http://walmart-stores.com/FactsNews/NewsRoom/6069.aspx>.

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